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FACULTY OF ECONOMICS**

**INTERNSHIP IN REVENUE MANAGEMENT AT
PESTANA**

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Internship

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Development**

Work made under the supervision of

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INTERNSHIP IN REVENUE MANAGEMENT AT PESTANA.

Work Authorship Declaration

I declare to be the author of this work, which is unique and unprecedented. Authors and works consulted are properly cited in the text and are included in the listing of references included.

Sylvie Rameil

(Author's Full Name)

A handwritten signature in purple ink, appearing to read 'Rameil', with a large, sweeping flourish underneath.

(Signature)

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RESUMO

Este relatório é composto por duas partes: revisão da literatura e descrição das atividades desenvolvidas durante o estágio no Grupo Pestana.

A revisão da literatura focalizou-se na aplicação de Revenue Management na indústria hoteleira. Foi analisado o enquadramento conceptual do Revenue Management e discutido o processo de recolha de informações úteis para a implementação prática do conceito, tanto em termos de aspetos técnicos como no que diz respeito à forma como as práticas inerentes são percebidas pelos potenciais clientes. A revisão da literatura identifica as condições do mercado que não são favoráveis aos hotéis como uma limitação para o uso de estratégias de gestão de receitas e realça as oportunidades que devem resultar de um melhor tratamento da informação baseado na experiência e na tecnologia.

O estágio decorreu no departamento de Gestão das Receitas do Grupo Pestana e teve a duração de três meses. O Grupo Pestana é a maior cadeia de hotéis em Portugal e está estruturada em torno de três segmentos distintos: Hotéis Pestana, Pousadas de Portugal e “Luxury”. O estágio diz respeito apenas os dois primeiros segmentos. O objetivo do estágio foi desenvolver conhecimentos sobre a utilização das ferramentas necessárias para a gestão de receitas, perceber a necessidade de um gestor de canais, e entender as diferenças entre os dois segmentos estudados, Hotéis Pestana e Pousadas de Portugal.

Tanto na revisão da literatura como no estágio foram identificadas várias dificuldades relativamente à realização de previsões seguras e à obtenção de informação de feedback. As soluções preconizadas realçam a importância cada vez maior da tecnologia neste processo de facilitação do desempenho do gestor de receitas nos hotéis.

ABSTRACT

The present work is composed of two parts: a literature review and the internship report.

The literature review is focused on the application of Revenue Management to the hospitality industry. The priority is given to the collection of information useful to the professional practice of Revenue Management, which concerns both the technical aspect of performing Revenue Management and the comprehension of how Revenue Management practices are received by the potential customers. The review identifies the conditions of the market, who are not favorable to the hotels, to be a limitation to the use of Revenue Management strategies and stresses opportunities come from a better treatment of the information made possible by experience and technology.

The internship takes place in the Revenue Management department of Pestana Group for a duration of three months. Pestana Group is the largest hotel chain in Portugal. Its hotel activities included three segments: Hotel, Pousadas of Portugal and Luxury. The first two are presented in this report. The goal of the internship was to learn to use the tools necessary to Revenue Management, perceive the need for a channel manager, and understand the differences between the two branches Pestana Hotel and Pousadas of Portugal.

The review of the literature and the internship both point out the difficulties in obtaining accurate forecast and feedback information. The solutions found in the review of the literature and experienced during the internship was to rely more on technology to facilitate the role of the revenue manager.

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CHAPTER 1: INTRODUCTION

The following report describes the activities carried out during the three months, full-time internship at Group Pestana. The purpose is to describe how Revenue Management (RM) is performed by two branches of Group Pestana: Pestana Hotels and Resorts and Pousadas of Portugal. The report is supported by a literature review on the topic of RM which focuses primarily on the practical aspects and aims to gather information which can be useful on the field. The objective of the internship report is to reflect on the experience from the perspective of a Master student in Tourism Economics.

RM has been a very active research topic since 1978, when the practice first appeared in the airline industry, under the name Yield Management. The emergence of RM was a consequence of the US Airline Deregulation Act. The deregulation act of 1978 stated that any airline could now “operate any route at any time with whichever fare they choose” (Guadix, Cortés, Onieva & Muñuzuri, 2010). These new opportunities led the scientific community to develop later on, a new management approach called RM.

The success of RM techniques as applied by the hotel industry became undeniable through the 1990s as revenue gains over 6 percent were reported by hotels in North America, with a 2 to 5 percent attributed to RM practices. By the year 2000, RM had become an indispensable practice for most hotels over the world (Cross, Higbie & Cross, 2009). Yet to most readers, RM will seem like an obscure topic. The general public is little aware of the RM practices put in place by hotels. The side which the potential customer can see: the promotional offers, the special discounts, or the variations in prices over time; is only the tip of the iceberg.

When we first learned about RM and understood the importance it has for businesses nowadays was when Pedro Andrade, which would become the manager and supervisor for the internship, was invited as a guest speaker by PhD. Júlio Mendes for his class on Management of Tourism Organizations. The presentation picked our curiosity. To our ear, the depiction of RM as “selling the right room, to the right client, at the right price, on the right moment, and on the right channel” (Andrade, 2014) sounded like a challenge.

The internship takes place in Alvor, Portugal under the supervision of Pedro Andrade (RM Director) for the hosting company, and Júlio Mendes (PhD. Professor of Marketing)

for the University of Algarve. For three months – August to October 2014, we were part of the two RM teams of Pestana Hotels and Resorts; and Pousadas of Portugal. The two teams practice RM under the direction of Group Pestana but with the variations inherent to the differences which exist between the two types of hotels.

This report is composed of four chapters. Chapter 2 is a review of the scientific literature on RM, starting with its outbreak in the airline industry, through its technical application for hotels, to the understanding of customer behavior. Chapter 3 focuses on the internship. It describes the environment of the internship and the internship experience. Finally, chapter 4 presents the main conclusions.

CHAPTER 2: LITERATURE REVIEW

2.1. Concepts and Goals of Revenue Management

In the literature, RM is defined as “delivering the right service to the right customer at the right time for the right price” (Hu Mei, 2013) (Heba Abdel Aziz, 2011) (Enz & Withiam, 2001). RM practices were first implemented by airlines in the 1970s under the name Yield Management (Cross, *et al.*, 2009). In this part we explore the early days of RM in the airline industry and its necessary evolution to be used for property management.

2.1.1. Origin and definition of Revenue Management

Airline companies were the first to experiment with deeply discounted fares and to understand the risk of revenue dilution if customers who were willing to pay a higher price took advantage of these promotional offers. To control this risk, airlines developed two strategies. First, these deeply discounted seats typically carried restrictions to limit their availability. Second, the airlines also would limit the number of seats available to be sold at a discount (Cross, *et al.*, 2009).

Yield Management strategies apply to the service industry when it meets the following five conditions: the offer has a limited capacity, the market can be segmented, future demand is uncertain, units of inventory are perishable and the business has the appropriate cost and pricing structure (Kimes, 2000). It is well suited for hotels because: the number of room is limited and cannot be extended in the mid-short term; the market can be segmented by: country, age, date of reservation, length of stay; future demand cannot be predicted accurately; rooms that go unsold one night are foregone; and the cost and pricing structure is characterized by high fixed cost with low variable cost and low margin on pricing. Table 1 Five conditions to apply Yield Management shows this comparison.

Conditions to implement YM	Conditions in the hotel industry
Limited capacity	Number of room is limited and cannot be extended in the mid-short term
Market can be segmented	Can be segmented by: country, age, date of reservation, length of stay, etc.
Future demand is uncertain	Future demand cannot be predicted accurately
Units of inventory are perishable	Rooms that go unsold one night are foregone
Appropriate cost and pricing structure	High fixed cost with low variable cost and low margin on pricing

Table 1 Five conditions to apply Yield Management

Enz & Withiam (2001) present the ideal outcome of RM as,

“...to match customers’ time and service characteristics to their willingness to pay – ensuring that the customer acquires the desired service at the desired time at an acceptable price, while the organization gains the maximum revenue possible given the customer and business characteristics.” (Enz & Withiam, 2001)

Supportive of the common definition of RM, *the right service to the right customer at the right time for the right price*, Enz & Withiam (2001) propose to define the *service* “according to the dimension of the service, how and when it is delivered, and how, when, and whether it is reserved”, the *timing* as encompassing both the timing of the service delivery and the timing of when the customer makes known the desire for the service, the *price* set according to a mix of “the timing of the service, the timing of the reservation, the type of service, or according to other rules that seem appropriate”, and the *customer* “according to demand characteristics relating to the service, the timing, and the price”.

The hospitality business was suited to benefit from the application of YM principles as invented by the airline industry. However, we see in the next part that the focus changes from yield to revenue to take into account the increase in complexity.

2.1.2. Application of the principles by the hotel industry

From its use in the airline industry to its use in hospitality business the definition of *YM* has evolved. It has moved from “maximizing yield or average daily rate to maximizing revenue” and gone further with the current focus being on property-wide profits rather than just room revenue (Anderson & Xie, 2010).

The first step to apply RM principles, say Enz & Withiam (2001), is to have a logical set of prices that make sense to the potential customers. To do so managers must know the demand elasticity of each rate class¹. A change in price will initiate a change in demand for the service, and the decision model must take this into account. Competition and many other things will also affect demand. The decision maker cannot consider these criteria independently because they influence one another. Enz & Withiam (2001) conclude that the complex dynamic of pricing in the hospitality business creates the necessity to implement an effective and accurate

¹ Rate class (as defined by Enz & Withiam (2001)): Groups the units to be sold (in this case the room nights) according to their price.

information system. Guadix, *et al.* (2010) confirm the necessity for the hospitality industry to use technology management for its survival.

Cross, *et al.* (2009) explain that hotel's RM had to differentiate itself from airlines because their activity is different, at least, on three aspects:

- a) Hotel guests are less predictable than airline guests;
- b) Hotel sells are often blocked by group commitment;
- c) Hotels seek ancillary revenue from food and beverage.

Cross, *et al.* (2009) also illustrate how these differences add to the complexity of RM for hotels with this example: "accepting a guest for the last room on a Wednesday, even at the highest rate, could block a guest wishing to stay multiple nights", therefore decreasing overall revenue. The complexity of applying RM to hospitality is in collecting the right information and, using it, producing the best strategy. The revenue manager must take into account the competitive environment, business specifications and customer behavior (Arate, Fraquelli & Viglia, 2012).

In their study Arate, *et al.* (2012) observed that most hotels have set a dynamic pricing strategy; about 20% of the hotels studied changed their prices during the day immediately before the check in date and 46% and 71% of the hotels during the week before the respective check-in dates they studied. They demonstrate that hoteliers constantly monitor the local market, and react in a timely manner to demand shocks; that they look at competitors' availability and adjust their pricing decisions accordingly. By observing that the price tends to increase when there is a scarcity of hotels available to book in a certain area they suggest strategic behavior, with hotels adapting optimal prices according to the competitor room availability.

Applying RM as became the norm in the hotel industry and, as a consequence, a self-centered strategy is no longer sufficient for hotels to thrive (Arate, *et al.*, 2012).

2.2. The business side of Revenue Management

In 1988 Orkin writes the theoretical ground work of the tools deployed in RM application today. He indicates that properties' need to focus on the following "four key areas" (Anderson & Xie, 2010):

- Forecasting,
- Strategy and tactical plans,
- Systems and procedures,
- Feedback systems.

2.2.1. Forecasting methods

In 2014, after a review of the literature on forecasting Koupriouchina, Van der Rest & Schwartz (2014) observe that while there is a long tradition of high quality research in forecasting in tourism, the literature on forecasting for hotels is rather under developed.

Weatherford & Kimes (2003) point out the importance of accurate forecasts as they are the major input in most RM systems, underlying: “without accurate forecast, the rate and availability recommendations produced by the RM system may be highly inaccurate”. A RM system requires detailed forecasts including demand, price sensitivity, and cancellation probabilities (Koupriouchina, *et al.*, 2014). Demand data forecasting methods can be classified in econometric models and time series. “Econometric models use exogenous variables, while time series models make no assumptions about external information and use only historical data for the variables themselves to predict future values” (Wu, Law & Jiang, 2010).

Guadix, *et al* (2010) present the time series models available. They make the distinction between the traditional forecasting techniques and advance booking models,

“Traditional forecasting techniques include moving average booking, exponential smoothing, or ARIMA time series models. [...] Advance booking models predict customers pickup. They consider the incremental booking received during a certain interval. Hybrid models include regression.” (Guadix, *et al.*, 2010)

There is no consensus of what would be the most accurate forecast, and furthermore, Koupriouchina, *et al.* (2014) emit a reserve regarding the significance of forecast evaluation,

“Forecast evaluation, when considered at all, is in terms of statistical accuracy measures of point forecasts, and standard forecasting books do not discuss the decision making aspects. (Koupriouchina, *et al.*, 2014)”

In the industry the lack of confidence in the forecasting methods is often compensated by a more intuitive procedure. For example, Cross, *et al.* (2009) observed a tendency in the industry to base the forecast on budgets. The pitfall of this method is that “human bias distorts budgets planning because budgets are too often built on hopes and expectations rather than objective assessment of the market place”. Another tendency observed by Koupriouchina, *et al.* (2014) is to compare computer generated forecast with manual forecasts “that is, predictions made by the hotel’s RM team”.

In addition to the selection of the forecasting method, other important questions must be addressed regarding procedures including the type of forecast (arrival or room nights), the level

of aggregation (total, by rate category, by length of stay, or combination), the type of data (constrained or unconstrained), the amount of data, the treatment of outliers, and the measurement of accuracy (Weatherford & Kimes, 2003). To apply control at the segment level, RM relies on, “accurate forecasts of demand by length of stay and rate category, that is, on forecast by segment.”

Koupriouchina, *et al.* (2014) give some insight on the purpose of forecast,

“In the real non-academic world, forecasts are made for a purpose and the relevant purpose in economics is to help decision makers improve their decisions. (Koupriouchina, *et al.*, 2014)”

Lee (1990) found that a 10% increase in forecast accuracy in the airline industry lead to an increase in revenue by 0.5 – 3.0% on high demand flights.

2.2.2. Strategies and impact

Strategies used in RM include: pricing, promotional offers and methods for allocating the inventory. Feedback can come in many forms but always concerns the measurement of performance.

Price discrimination is the key concept at the core of RM (Cross, *et al.*, 2009) (Noone & Mattila, 2009). “A variable pricing structure allows for the use of discounted rates to stimulate demand for hotel rooms that would otherwise go unsold” (Noone & Mattila, 2009). Arate, *et al.* support that the hotel industry is an ideal field of application for the theory of RM, “usual price differentiation criteria are the physical attributes concerning service provision, reputation, and site specific attributes” (Arate, *et al.*, 2012). RM’s pricing strategy differs from a discounting strategy because under the pricing strategy discounted prices are based on a set of rules known as rate fences² (Cross, *et al.*, 2009).

Koupriouchina, *et al.* (2014) identify the most common pricing and allocation tactics of RM to be:

- a) The reservation of a portion of the capacity for higher value customers at a later date;
- b) Efficient price discrimination practices to extract as much of the consumer surplus as possible;
- c) Overbooking policies to offset no shows, late cancelations, and early departures.”

² Rate fence: In the hotel industry, any number of characteristics that are used to determine the rate for a room. For example, a physical rate fence would involve the location of a room; a product-line rate fence would involve the class of service (concierge, ROH, etc.). (The Intrepid Traveler, 2015)

The many dimensions of booking decisions make it difficult to measure the impact of pricing. Price responsiveness must be measured at a particular location at a particular point in time if it is going to be accurate. Adding to the complexity, a guest's willingness to pay varies as the arrival date approaches (Cross, *et al.*, 2009). Cross, *et al.* (2009) report that "Marriott pioneered the development of a Revenue Opportunity Model (ROM) to measure the effectiveness of inventory controls." A ROM evaluates the impact of RM decisions by comparing the actual decision to two scenarios : the "no control" scenario and the optimal revenue that could have been achieved. Dividing actual revenue by optimal revenue produces a "revenue opportunity index" that can be tracked over time and used to identify problems or opportunities.

Keeping in mind the old adage "when performance is measured, performance improves (Cross, *et al.*, 2009)" we understand that feedback comes in to reinforce the other areas of RM. The application of RM strategies is unique to each situation. Strategic decisions are based on forecasts but also take into account a "human factor". The ability to put it in place depends on the systems and procedures in place.

2.3. The customer side of Revenue Management

Enz & Withiam (2001) defined the strategic levers of yield management as 4-Cs: Calendar, Clock, Capacity and Cost; bound together by a fifth C: the customer. In this part we look further into customers' behavior and responsiveness to change.

2.3.1. Perceived fairness

The growth of the internet as a channel of distribution in the last decade "has increased the hotels' opportunities to discriminate clients, applying different prices on the online market over time (Arate, *et al.*, 2012)." It has also changed customer's awareness of RM pricing practices (Noone & Mattila, 2009).

Familiarity with RM pricing practices has been shown to influence customers' perception of RM pricing. While customers unfamiliar with BAR³ pricing perceived nonblended rates as fairer, customers familiar with BAR pricing perceived no difference in fairness (Noone & Mattila, 2009). Noone & Mattila (2009) describe the Best Available Rate or BAR as:

"A term that as evolved in the domain of hotel room pricing [...]. BAR is generally accepted to be the best non-qualified rate available on a given day. In other words

³ BAR: Best Available Rate (BAR) is defined as the lowest available unqualified rate, representing the fair market value for the hotel for each day (Farrell, 2011).

if the customer did not qualify for a special rate they would be quoted the BAR rate (Noone & Mattila, 2009).”

The higher awareness of customer is a concern for hoteliers because clients are now more likely to behave strategically and take advantage of a decreasing price trend by “booking in advance and rescheduling later” (Arate, *et al.*, 2012). Witnessing the evolution of customer behaviors, hoteliers and Online Travel Agencies⁴ (OTA) have put an end to the Last Minute Discount strategy (Cross, *et al.*, 2009). The trend now is rather to fill the seats early with lower fares and have the “last-minutes seats (were) saved for passengers willing to pay much higher fares than existed before. (Cross, *et al.*, 2009)”

A key matter to be considered when pricing is the extent of canniballization among rate classes, that is the number of high-price units that go unsold because buyers have taken advantage of a lower price.

Cross, *et al.* (2009) warn hotel businesses about the recently gained awareness of customers on these matters,

“The arbitrage opportunities that existed when hotels knew more than customers about price alternatives in the marketplace have evaporated. Consumers now have the benefit of knowing all competitive rates when shopping for a room.” (Cross, *et al.*, 2009)

So far in the hotel industry, price variations have not created any negative perceptions. Guadix, *et al.* (2010) attribute it to the fact that the services hotels offer at different prices are well differentiated. Hence, the customer perceives tangible differences in the service offered.

2.3.2. Management of demand

To optimize its prices and promotions a company needs to understand its clients (Enz & Withiam, 2001). This part shows some example of the methods used by RM to manage demand.

Guadix, *et al.* (2010) present the different methods which can be used by reservation supervisor to decide whether to accept a guest requesting a room or not. The RM system they developed offers a set of possible strategies to make this decision:

- a) The First-Come First-Serve rule, disregarding room distribution optimization, where who requests the room first gets the room;
- b) The protection of room according to the optimal room distribution;

⁴ Online Travel Agencies (OTA): “OTA sites allow consumers to check live availability and pricing then book travel products in real time through the OTA site (National Online Strategy Committee, 2011).” Examples include Booking.com and Expedia.

- c) The nested method, a procedure to book rooms that considers higher fares and in turn utilizes the room reserved for the cheaper fare but charging the higher price with for only limitation the availability in the inventory.

Moreover, when the arrival date comes, the customer can potentially be a no show. To offset this problem hoteliers use several tactics such as: overbooking, cancellation penalties, or deposits (Enz & Withiam, 2001). Overbooking on reservations needs to be handled with care to avoid denying the service due to overbooking on the stay date (Anderson & Xie, 2010). When overbooking practices were set by airlines, the situation was different. Because all passengers were boarding at the same time, it was possible to ask for volunteers to give up their seats, and denied boarding was relatively rare (Enz & Withiam, 2001).

Overbooking is largely use by airlines as a RM tool but presents more risks for hospitality business. As a result they have developed other policies to shift some of the responsibility for arrival uncertainty to the customer themselves, the most common of which is to request deposits to hold reservations or to take Non-refundable reservations. However, hoteliers have encountered sale difficulties when implementing these practices. Enz & Withiam (2001) explain that potential customers of hotels are faced with a larger offer of rooms than the potential customers of airline companies and therefore have the capacity to choose for the fully refundable reservations without compromising.

When asked to accept or reject a group reservations, RM will consider several factors. On the one hand, group reservations are an efficient strategy to fill the rooms, on the other hand “during high-occupancy times, accepting group business means deferring transient business⁵, which is usually more lucrative” (Enz & Withiam, 2001). Hoteliers need to negotiate prices or refuse group reservations when it lowers their profitability. Hence, forecasting group business is particularly important (Enz & Withiam, 2001). In some cases, the hotel may lower its room revenue to accommodate a group, expecting higher revenues in auxiliary products (Guadix, *et al.*, 2010).

“An effective yield management strategy separates price-sensitive customer according to the time the service is rendered or a reservation is made.” (Enz & Withiam, 2001)

⁵ Transient business: Leisure, non-corporate, short stay guests as opposed to group business.

2.4. Limitations and perspectives

“Most hotels do not have sufficient marketing power to change room rates at will” (Enz & Withiam, 2001). In this part we review the limitations of RM and the opportunities of development through cooperation, specialization or technological improvement.

2.4.1. Limitations to the application of Revenue Management

From the review of the literature we identify three limitations to the application of RM for property management: the atomization of the market, the short reach of each actor and the uncertain outcome of RM strategies.

Enz & Withiam observe more variation in flight prices than in hotel reservations' prices. They explain that hotel pricing is less flexible than airline pricing because potential customers generally have more choices available for accommodation than for flights. Because there are more alternatives, the risk of a downward spiral in prices is higher.

Another limitation is that “unlike the traditional industries, most hotels are not well-known” hence, they seek to cooperate with famous third party websites such as online tour operators. “The merchant model (also) led to erosion in the relationship between the hotels and their guests as people began to shop the third party site first.” (Guo, Ling, Dong & Liang, 2013)

Cross, *et al.* (2009) observe that under certain circumstances, a naïve application of the principle of RM that inventory predicted to be empty should be made available at the lower price can lead to a downward spiral in prices. They give the example of what happened post 9/11 when the market of leisure and travel shrunk. “Some hotels thought that they could just drop rates as low as possible to attract people to the hotel. The fear of many in the business was a “race to the bottom”. Wu, *et al.* (2010) point out that “the recent global financial crisis and the threat of a worldwide H1N1 influenza epidemic have greatly affected the tourism and hospitality industries around the world” but that hotels reacted differently and could avoid the downward spiral of prices for the most part. (Wu, *et al.*, 2010)

Guo, *et al.* (2013) state that because the market is becoming increasingly complex a cooperative behavior between the different actors is necessary to allow for sustainable planning and development.

2.4.2. Future of Revenue Management

Four areas for future development of RM emerge from the review of the literature: the technological improvement (Cross, *et al.*, 2009), Process Management (Enz & Withiam, 2001), Customer-centric RM model, and Price Optimization (Cross, *et al.*, 2009).

Progress in technology will allow for ever more automation, larger data bases and more detailed forecast; it will free revenue managers to think strategically (Cross, *et al.*, 2009).

Process management can be for example examining ways to reduce changeover time. “Changeover time is the amount of time between customers, when planes are being cleaned and services or tables are being bussed and reset” (Enz & Withiam, 2001). Progress can be made in process management such as reducing service duration. Process management could make the room available earlier for the guest or give time for a higher quality service.

Cross, *et al.* (2009) predict that ultimately it should be possible to link all the revenue streams together so that you could start to measure revenue per available customer stream and see the potential for different customer segments. Because prices are becoming more and more transparent to the potential customer, hotels will need to consider customer price elasticity and not limit their strategy to matching competitors’ prices (Cross, *et al.*, 2009).

Ultimately, technology and knowledge will make possible “promotions to fill off-peak periods or advertising campaigns with a more targeted message to narrow customer sets with known behavioral responses.” Cross, *et al.* (2009) predict the rise of a “vision of customer-centric RM to replace the long-standing inventory-centric approach.” This will mean “reaching out to the past customers in a personalized way with targeted packages that optimize their response.”

Finally, Cross, *et al.* (2009) present Price Optimization as the next step in the evolution of RM. Price optimization marries an understanding of customer buying habits with market dynamics to predict what the customer is willing to pay in a wide variety of circumstances.” Price Optimization is the combination of advanced demand forecasts with elasticity effects while incorporating the competitive landscape. Cross, *et al.* (2009) conclude “One of the newer things in the RM field is a focus on profit as opposed to a focus solely on revenue.”

More than progress in the current application of RM, researchers foresee shifts in focus: from inventory centric to customer centric and from revenue optimization to profit optimization.

2.5. Conclusion of the literature review

The concept of RM can be expressed in one simple sentence, it is delivering the right service to the right customer at the right time for the right price, but its application to property management is complex.

First, Yield Management had to be adapted from the airline business to the hospitality business. The basic principle remained but RM needs to take into consideration the different conditions specific to hotel industry. We have, also, seen in the literature review that the application of RM is limited by the conditions of the market. The atomized market offers many alternatives to the potential clients and grants little power to the hotels. Moreover, most hotels are not well known by the general public, and therefore need to associate with travel agencies to gain visibility and reach further markets.

Second, the application of RM principals without proper consideration of the situation at hand may have negative consequences. Specifically, a naïve application of the principle of RM that inventory predicted to remain empty should be made available at a lower price, can lead to a downward spiral in prices and damage revenue on the long term. The review of the literature highlighted the importance of understanding and accurately predicting customer's behavior, showing that being aware of customer's response to change, such as the elasticity of demand, will allow revenue manager to make the right decisions.

As we conclude the review of the literature and make the transition to the internship report, we keep in mind that the practices of RM management, being enriched by research and practical experience, are in constant evolution. Researchers foresee that the improvement of technology, both hardware and software, and its progressive implementation on the field, will create new possibilities, which will fuel the change in focus that RM is undergoing.

CHAPTER 3: THE INTERNSHIP

This report continues with the presentation of the internship. Hopefully the report will show that the internship not only matches the requirement of the master degree but that it was a highly valuable experience.

We chose to complete our curriculum with an internship which combines both our interests: finance and tourism. The internship takes place in the RM department of the major hotel chain Pestana. The duration of the internship was of three months or 520 hours. It takes place from August to September which is the period of pick activity for hotels in the Algarve. Pestana is the largest hotel chain in the Portugal and continues to expand. In 2015, Pestana opened one more hotel in the Algarve. The RM team is a small team managing a large activity and taking on great responsibilities. We had the chance to learn from them and benefit from their experience.

Doing RM for a large hotel group like Pestana can be related to at least two fields of the Master: tourism and economics. Moreover, it gave me the chance to see in practice some of the teachings of the Master of Tourism Economics and Regional Development. For example, the subject of Tourism Economics had taught me, that demand is not fixe and can be created, a phenomenon which we could witness during the internship. The econometrics models applied to consumer behavior from Modeling Tourism Demand and Econometrics helped me conceptualize and sort through the information available to practice RM. We were also, better prepared to the use of challenging new software thanks to the subjects of Economic Impact of Tourism where we learned to use Eviews or sort through information of a data base as is the OECD.stat.

The practice of RM at a large scale is a complex and high stake activity. It requires the acquisition of a broad knowledge of the company and of the market conditions. The revenue manager needs to be able to gather and analyze information to take optimized decisions. Revenue manager is an important function which can make or break the success of the company. The practice of RM is highly technical but also largely based on assumptions, as confirmed by the literature review. For these reasons, the report contains a lot of background information: about the company, about the tools used for RM, and about the conditions of the market; which are necessary to give the full dimension of the internship. Please not as well, that not all responsibilities involved in the practice of RM can be assumed by an intern who is only

part of the team for a short period of time. Nonetheless, we were proactive and could get involved at least partly in all the activities that we described later in this report.

The third chapter of this work is focused entirely on the internship. We first present a brief historical of the company's development and a review of its current organization. The core of the report narrates our tasks and projects. We also share about our learning and growth during the internship.

3.1. Presentation of the company and the mission

In this part we present the host company for our internship Pestana Group, from its creation in 1972 to the organization of the RM department in 2014.

3.1.1. Historical Development

The hotel group Pestana started with one hotel in 1972. The first hotel was ordered by Manuel Pestana when he returned to his native land of Madeira after becoming significantly wealthy in South Africa. Madeira is a Portuguese archipelago located in the North Atlantic Ocean. It includes the islands of Madeira, Porto Santo, and the Desertas. Today, Madeira is a popular year-round resort, being visited every year by over one million tourists. It was Manuel's dream to bring wealth and recognition to Madeira. He believed that Madeira was a premium destination and therefore his hotel was designed to be a luxury hotel. Nowadays, the group manages ten units on the archipelago: 9 units in the Hotels segment and 1 in the Luxury segment.

Later in the 1990's, under the supervision of Manuel's son Dionísio Pestana, the group expanded in the Algarve (southern region of Portugal) and in Brazil. In the early 2000's the group became fully global by expanding to South Africa, Cape Verde, Argentina, São Tomé e Príncipe and Venezuela. Pestana Group also secured a position of choice in Lisbon, Portugal's capital with: 3 Hotels, 1 Luxury and 5 Pousadas. Over the years the group diversified its activities and also owns 15 Holiday Ownership units, 6 golf courses, 3 real estate ventures, two casinos, an air charter company and one tour operator.

Since 2003 Pestana is managing the Pousadas of Portugal chain "adding to its portfolio 44 unique properties located in converted monuments, palaces, convents and castles spread across the country." (Pestana, 2012) Pousadas are buildings of exception, historic or culturally important, which have been converted in high standing hotels. They can be castles, palaces,

monastery or convent. These exceptional buildings “have been restored in order to maintain the elegance of a by-gone era whilst incorporating all modern conveniences.” The surroundings of these building are also outstanding. “These unique hotels are located [...] in either historic cities such as Evora, a world heritage site, or in rural areas of outstanding natural beauty or interest such as Geres National Park.”⁶ Among the most successful Pousadas of the group we count the castle of Obidos, where you can spend the night as king and queen in one of 17 rooms; also the Pousada Santa Marinha in Guimaraes. Also, recently opened but very promising, the Pousada of Serra da Estrela, Covilhã is located on the highest pic of Portugal.

The part of the activity managed by the RM team in Alvor is limited to the Hotels and Pousadas located in Portugal (including the islands).

3.1.2. Current organization

Before narrating the internship experience, we will provide back ground information about the organization of the company which will help the understanding. The repartition described in this part is in place since July 2013.

The Group Pestana counts over 100 properties and employs 7000 collaborators worldwide. In Portugal, the Group counts over 50 properties divided between three segments: Hotel, Pousadas of Portugal and Luxury. In this report, Hotel starting with a capital letter will stand for a unit of the Hotel segment, while hotel with a minuscule will mean an accommodation regardless of the segment. The administrative teams for Pestana Portugal are located in three different offices: the main office is in Lisbon, the other two are in Algarve and Madeira. In Alvor, Algarve’s office are the RM department, the account payable department, a small part of human resource department and the central of reservation for online reseller and travel agencies. The Luxury segment of Pestana is managed independently in Madeira and all the other departments are in Lisbon or in the hotels. Table 2 shows the repartition of responsibilities between the three offices.

⁶ www.pousadasofportugal.com/

Alvor	Madeira	Lisbon
Revenue Management	The luxury segment is managed in Madeira, in complete independence from the other segments.	Accounting and finance
Account Payable		Marketing and sales
Central of reservation – Travel agencies		Central of reservation – Direct clients
		Human Resources

Table 2 Localization of departments

At times the distance between people working together is the cause of problems and can reduce efficiency but it is largely facilitated by technology. The communication between offices is done by phone or email or through the instant messenger Lync. There is no indication that the Group is working toward a one centralized office organization, in Lisbon for example. In fact, this repartition as one advantage, it is for the management teams to be close to more of the hotels of the Group. The office in Alvor is surrounded by four hotels of the Group and is also not far from the Pousada of Estoi. During the internship we had the chance to go and visit the Pestana Delfim with the rest of our team to see for ourselves the different facilities of the hotel.

Several administrative departments make the distinction between the three branches of the business: Hotels, Pousadas and Luxury. These departments, like it is the case for the RM department have a team dedicated to each branch. Table 3 points out some of the differences between Hotels and Pousada. Keep in mind that the goal here is not to be comprehensive but to help general understanding of why the two segments should be treated separately. Pousadas are smaller units than Hotels. They are a more specialized and less known product. They appeal to a different market segment. Clients do not have the same expectations or behavior patterns.

	Pousadas	Hotels
Number of rooms	About 30 rooms	A least 100 rooms
When the reservations are made	Mostly within the last month before the stay	No distinct pattern
Length of stay	Often 2 or 3 nights	Minimum of one week
Channel of reservation	Mostly direct reservations: Pestana website, Pestana call center.	All channels: direct, travel agencies, OTA.
Objective of the stay	Special occasion: wedding, anniversary etc.	Holidays and corporate
Promotional offers	Seasonal, experience (Wine Season Package, Romantic Package etc.)	Seasonal and generalized to all units

Table 3 Differences between Pousada and Hotel segments

Other departments like the centrals of reservation consider the business activity globally. Hence, there is only one central of reservation for individual guests who wish to stay at one of the Pestana property, be it a Hotel, a Pousada or a Luxury property because from a reservation stand point the processes are similar, but it takes three RM departments with tailored processes. Actually, there are two centrals of reservation but for a different reason. Centrals of reservation are differentiated according to the market segment they cater: in Lisbon the central for individual clients and in Alvor for travel agencies. Reservations for group, over 10 people, are treated again separately.

The department of RM, where the internship takes place, consists of three teams working in parallel. Hotels' and Pousadas' RM teams are in Alvor and Luxury located is in Madeira. The Hotels RM department is managing revenues for 22 properties, the Pousadas of Portugal department 27 properties and the Luxury segment 4. The teams count three collaborators for Hotels and two for Pousadas, including the department directors. In fact, the director for Pousadas has his office in Lisbon and his one direct collaborator is in Alvor.

Group Pestana is a large hotel group whose component parts have been added successively over a short time period. Reorganizations are common at Pestana, always with the objective to fine the optimal organization which will allow for economies of scale while keeping a service of quality.

3.2. Validation of the mission

In this part we explain why this internship was an exceptional opportunity considering our background, the environment and our objectives.

3.2.1. Presentation of the mission

The goal of the internship is to understand the different components of RM. The main aspects of RM are: forecast, pricing and then feedback, we can also mention inventory management. The goal was also to see in practice how the principles of RM can be adapted to different business models (Hotels and Pousadas) and how RM relates to the other activities within the business (central of reservation, sales, website, properties) and outside the business (OTAs).

According to the internship plan, defined conjointly with the internship supervisor, the internship is of duration of three months and is divided in two periods of one and a half month. “The first half will be concern with the RM activities of the brand Pousadas de Portugal – under the tutoring of Johann Pita, the second part will be to contribute to the RM of the brand Pestana Hotels – under the tutoring of Ricardo Floro.”

The internship plan defines four objectives:

- “1. To understand the type of business of the Pestana Hotel Chain, and the need for Revenue Management*
- 2. To be able to identify the major differences between the two brands*
- 3. To have a general vision of the tools and systems used to: collect data, analyze the data, and prepare forecasts.*
- 4. Understand the role of a Channel Manager”*

We can see in the list of objectives a focus on observation and understanding. RM is complex, especially when applied on a large scale as it is the case at Pestana and the review of the literature as taught us that the appropriate use of its principles requires experience and vision.

Further, the internship plan tells us “activities will concern the all spectrum of tasks related to the use and analysis of tools and data within the department of RM.” The interpretation we made of this is that there was no limit to what we could do: we could take part in all activities of the department. We committed ourselves to show what we could do and fine our place in the team.

In retrospective, the team was very available to answer our questions and provide guidance. We enjoyed the freedom to explore what sparked our interest and spend time on projects.

3.2.2. The mission and the professional project

The internship is the conclusion of the Master of Tourism Economic and Regional Development (MTERD). This experience makes the transition between the university years and the start of a professional career.

To put things in perspective, we need to tell more about ourselves and our experience. We are French born and raised. We came to live in Portugal in July 2013 at the same time that we enrolled in the Master of Tourism Economics and Regional Development. We speak French and English and we are learning Portuguese as we go. In France, we went to Business School where we graduated in Business Administration. We specialized in finance and had several professional experiences during our studies, in both administrative and financial positions, including a gap year. We are well-traveled as we have worked or studied in five different countries (France, Ireland, USA, Netherlands and Spain). We are now living in Portugal.

The Master of Tourism Economics and Regional Development is focused on tourism. It makes sense to study and work in tourism in the region of Algarve because tourism is currently the main source of revenue in the region. As described by Oliveira, *et al* (2013) “The Algarve has an area of 5412 km² with approximately 450 thousand inhabitants but receives an average of 7 million foreign tourists every year.” It also has the potential for luxury tourism.

This quote from Oliveira, *et al* (2013) gives an idea of the potential of the region,

“Algarve is a tourist destination of worldwide excellence. It was considered two times the best worldwide golf destination in the last decade by the International Association of Golf Tour Operators (IAGTO, 2013).”

Being a foreigner leaving in Portugal for the first time (just over one year at the time of the internship) we aspired to seize every opportunity to learn more about the culture and ways of our host country. Working at Pestana was a big step in this direction. Indeed, Pestana is the largest hotel group in Portugal and has played an important part in the development of tourism in the country. The company has deep Portuguese roots as it was created in Madeira by a *madeirense* (natural of Madeira in Portuguese) and in its expansion has shown a preference for countries which have a certain affinity with Portuguese culture such as Mozambique, Brazil, and Cape Verde (Pestana, 2012).

Working for this company was also an interesting choice for more practical reasons. At the core of Pestana's corporate culture is the belief the Portugal as the capacity to be a premium destination. This resonates with me because the potential of this region to be of worldwide excellence is also a conviction we have formed for ourselves during the course of the Master degree. Moreover, the company is well implanted in Algarve, with 13 properties, which makes doing the internship at Pestana a plus all around: the group is large and therefore is a potential employer in the future; the group is well known and therefore will make a positive impression on our future applications. Lastly, there is a lot we could learn by immersion in the environment of our internship, from language to culture.

Our two areas of study have been Business Administration and Tourism, this internship doing RM at Pestana was the perfect opportunity to combine and explore further both topics.

3.2.3. The search for the internship

In this part, we share about how we arrange the internship as the situation is particular and this might be useful information for future master students.

When looking for the internship we faced several difficulties. First it is important to say that concluding the Master with an internship is not the most common option elected by students of this Master, it is in fact rarely chosen. In our opinion, the reason for disregarding this option is that most students are foreigners and those who aren't are already working full time. Difficulties we encountered were the lack of knowledge of the market and not speaking the language. Nonetheless, doing an internship here was the best suited option for us and also the one we could learn from the most.

To find the right internship we tried several ways: first we consulted job offers published on online job boards (NetEmprego, Sapo, Trovit, Turijobs) which gave me a general idea of the market. Later we went door to door to give our résumé to the surrounding hotels. It gave me chance to practice our presentation and adapt it to our audience. At last we turned to the university. Our teachers were responsive and helpful. The opportunity to do the present internship at Pestana rose when Pedro Andrade, the RM director at Pestana came to the university to give a presentation for our class. We exchanged contact information and sent our résumé. We were invited to do an internship at Pestana Group in RM.

Our determination led us to do the internship we were really hoping for, which combines our interests and is a great opportunity.

3.3. Tools used to perform Revenue Management

The first step to performing RM was to understand the tools which were available to the department. The tools play a large role in your ability to perform yield management. Indeed, you need the right tool to gather the right information, design the right strategy, implement it at the right time and make it available to the right clients or channels. As we have seen in the literature review more automatization will mean more time to truly perform RM.

At Pestana making processes easier thanks to technology is an ongoing process. Some of the aspects described in the review of the literature were not yet part of standard processes at the time of the internship. For example, the side of RM which consists of monitoring competition had not been explored yet. At least it was not part of the daily activities that we have observed. During the time of the internship, the possibility was explored to subscribe a third party offering this kind of service. Several propositions were presented to the team and tested.

The review of the literature also suggests that other companies use tailored software for budgeting and forecasting, allowing the comparison of forecast under different imposed conditions and feedback comparing forecast to actual results. In our experience at Pestana, most of the analysis is done with Excel. We present below the tools we used during our internship.

(1) Business Intelligence Software used together with MS Excel

The software used by the company for Business Intelligence is developed by Opera and comes in two applications: ORS (Opera Reservation System) and PMS (Property Management System). ORS and PMS are used to centralize all the information regarding the business. It is basically a database tailored for hospitality businesses. It contains and gives access to the reservations.

Within ORS and PMS environments, information such as total room availability, room types and rates can be set manually. It is used throughout the group by management and by executives, at the administrative offices and at the hotels. It contains information about the room's distribution and whether or not the room has been cleaned or the guest has checked in. Once information is input, it is available to everyone who is granted access in real time. Moreover, all changes in price, promotion or availability made through the software are

synchronized almost instantly with the selling website of Pestana without any human intervention being required.

To make a simple distinction we can say that ORS is used mostly by the central of reservation and collaborators at the properties, while PMS is mostly used by the collaborators at the office. Also PMS is used mostly for the Pousada units. As a RM controller, to check an invoice we would use ORS but to make a price modification for one of the Pousadas we would use PMS. The two programs synchronize almost in real time but do not offer the same functions to the user.

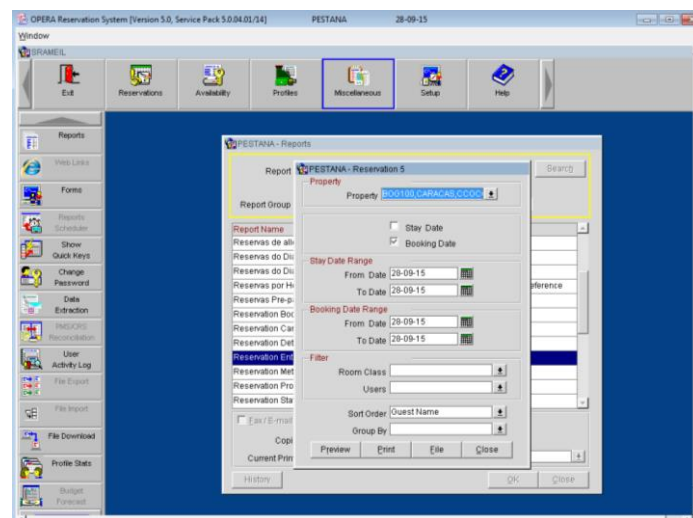


Figure 1 Extracting reports from ORS

The Business Intelligence software (ORS and PMS) allows us to retrieve punctual information in the form of reports, see Figure 1, but the functions available are too limited to have it perform analyses for us. To perform reporting the data had to be retrieved from the BI database through a pivot table in an Excel spreadsheet called a Cube (a pivot table connected to the data base). There are three Cubes: one for the Hotels, one for the Pousadas and one for the Luxury properties. The Cubes are very malleable, they allow us to retrieve and cross almost any information we need.

However, we could see two limitations to the Cubes:

- The amount of data they have to process makes them rather slow;
- The information they contain is updated daily. Once the cube is updated, the previous information is forgone. Which mean for example that you cannot make a chart of the level of forecast occupancy for a given date overtime, nor can you inquire what was the situation last year at the same period. This information has been written over every day since it was produced.

To solve these two problems, the team has found a solution long ago: the reporting processes are not base directly on the Cubes, they are based on other files which save the information available from the cube daily. These other files need to be updated and saved every day manually so it does take some time but it solves the problem. Figure 2 shows the layout and information of these files. We call those files Day by day. The reporting files get their source information from the Day by day files.

KS	JH	JJ	JU	JK	JL	JM	JN	JO	JP	JC	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD
Pousada Sta Marinha, Guimaraes																							
dezembro 2011																							
27 Sep 15 - Sun																							
A349																							
Month	EMPTY	% OCC	OCC Rooms						Room Revenue						ARR								
			TOT	TD	TC	TCT	GB	COMP	TOT	TD	TC	TCT	TC	TCT	GB	COMP	TOT	TD	TC	TCT	GB	COMP	
01 Dec 11 - Thu	38	25,5%	13	8	0	5	0	0	1.081	713	0	368	0	0	83,15	89,17	0,00	73,51	0,00	0,00	0,00	0,00	
02 Dec 11 - Fri	33	35,3%	18	12	0	6	0	0	1.637	1.165	0	472	0	0	90,94	97,11	0,00	78,60	0,00	0,00	0,00	0,00	
03 Dec 11 - Sat	35	31,4%	16	12	0	3	0	1	1.517	1.176	0	341	0	0	94,82	98,03	0,00	113,58	0,00	0,00	0,00	0,00	
04 Dec 11 - Sun	38	25,5%	13	10	0	3	0	0	949	706	0	242	0	0	72,97	70,61	0,00	80,82	0,00	0,00	0,00	0,00	
05 Dec 11 - Mon	38	25,5%	13	8	2	3	0	0	885	526	141	218	0	0	68,11	65,80	70,47	72,70	0,00	0,00	0,00	0,00	

Figure 2 Example of Day by day files

Excel and Opera could be all the tools we used to manage prices, make stop sales and perform strategic analysis if the rooms were only sold through Pestana's website. The RM of the direct sales, made via the Pestana website or via the direct client call-center could be managed fully with Excel and Opera.

It is the case that a large part of the sales is not made directly from the clients to the hotel group but by the client through a Travel Agencies to the hotel group. The synchronization with the resellers is not done with the Opera suite. It requires the intervention of other pieces of program.

(2) Omnibees

Omnibees is a channel manager. The synchronization of the prices and offers with the reseller is made through the Omnibees platform which is a third party website. Omnibees is a web based platform, which serves as a channel manager allowing us to "update rates and availability on all channels simultaneously" (Omnibees, 2015). In the RM department, Omnibees is used to update prices or close/open sales for all the subscribed agencies, see Figure 3. Omnibees seem to be popular as most Online Travel Agencies have subscribed.

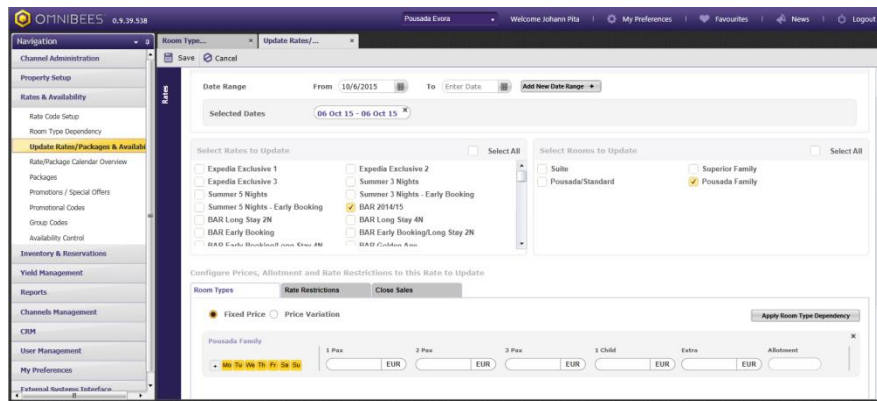


Figure 3 Omnibees

As part of our internship in RM we spent 10 days in the central of reservation in Alvor which is the central for agencies and companies as opposed to the central in Lisbon which manages the direct reservations. During those 10 days at the central of reservations we could see that although the management of reservation is partially automated with Omnibees it still requires a lot of manual input.

Omnibees is used to synchronize information with most of the agencies but it is a paid service and agencies can choose to subscribe or not. Not all agencies are subscribed; therefore, there are more tools necessary to RM. Agencies which did not subscribe to Omnibees seem to be either the very large ones such as Expedia or very small ones. Those who do not use Omnibees need to be dealt with separately using either their specific extranet when they make one available or communication by emails, as we see in the next two points.

(3) Extranets of Online Travel Agencies

For the travel agencies who are not subscribed to Omnibeas, the modifications need to be inputted on their individual extranet websites. We were explained that, before Omnibeas became popular, going to each extranet and input the modifications manually was the primary method. It used to be the case that, each agency had its own business to business extranet. The revenue managers had to go to each website and enter the modifications. It was very time consuming to update prices back then. Thankfully, Omnibeas and the other similar platforms are becoming the norm.

(4) Communication by email

The last method is to communicate all information by email which the agency will then process in its own way. Some of the partners are agencies “off-line”, which means they have no online presence; in this case the information about prices and promotion is communicated by email.

At the time of the internship, those were all the tools made available to the department. The list is likely to extend in the short term as management was considering the implementation of a piece of software that gathers information about the competition’s offer in real time.

3.4. Activities during the internship

During the internship, we could take part in most activities of RM from inventory management to the weekly forecast meetings. Most of our time was spend working on RM for Pousadas of Portugal both for practical reason and because we thought it was a niche were we could try and learn a lot of things.

3.4.1. Management of inventory

A regular day in the office starts with the management of the inventory which consists in checking the occupancy level of the properties of the group for the time onward and making the dates which are outsold, or about to be, non-available for sale on the different channels. After the first month of internship we could complete the task we are about to describe, from the gathering of the information to the communication of the decisions with minimum supervision for the RM of the Pousada branch.

We first give some contextual information, then explain how the strategic decisions are made and conclude on the practical aspect of the activity.

(1) General information

The RM manager is managing inventory for 27 Pousadas. Most Pousadas are small properties with between 30 and 50 rooms, which mean they can quickly get sold out. The observed trend is that “most sales are made within one month before the date of stay” (Pita, 2014). However, a time period when a local event takes place or bank holiday can be booked very early. We also observe a rather short duration of stay with many one night or two nights stays at a Pousada.

We think that if you consider the number of properties, the many selling channels and the duration of stays you will understand that management of inventory can become a challenging activity. To make things worse, overbookings, should they happen, are more difficult to resolve than in the average hotel unit because each Pousada offers a unique experience and cannot be easily substituted for another hotel nearby.

Management of inventory is rendered more difficult by the exclusive allocation, under the terms of their contract with Pestana Group, of a certain number of rooms to certain travel agencies. In the business language those rooms are referred to as allotments. They are negotiated by the agencies along with the contracts. It means that an agency has rooms allocated to be sold exclusively by them. It can be 30 or 100 rooms in a large hotel or 2 to 3 in a smaller unit. These allocated rooms are not subject to stop sales and will remain available for the agency to sell until the inventory is released usually two days before the stay date.

Allotments make management of inventory increasingly complex because the revenue manager cannot take the risk to wait until the release to react if the rooms have not been sold. There is no guaranty that the agency will be able to sell the allocated rooms therefore waiting could result in a loss for Pestana. The rooms might be allocated exclusively to agencies but the agency will only pay for the rooms which will in fact accommodate their clients. Not offering those allocated rooms for sell on the other channels can potentially result in large opportunity costs.

Some agencies have a high power of negotiation because they also schedule flights which bring the clients to the islands. Pestana runs several hotels in Madera and Acores. The majority of the clients for the hotels are British or German. The few companies which connect these countries to the islands can make or break a season depending on how many connections they decide to operate. There is a strong co-dependence between these airline/travel companies and the hotels which accommodate their clients.

The management of inventory is mainly concerned with closing and occasionally re-opening sales.

(2)When do we Stop Sales?

The order to stop selling is referred to as a Stop Sales, it can be an order to stop selling one type of room or all types. We can stop selling either because the hotel is predicted to be full or for strategic reasons.

The hotel is predicted to be full when the reservations accounted for in Opera, reach full or almost full capacity of the hotel. We, however, have to remember that reservations are not a warranty because they can be cancelled or the client can be a no-show when the date of the stay comes. On one hand not every reservation will turn into a stay, on the other hand, the quantity of reservation will most likely keep increasing after the stop sales has been communicated both because of delays in the synchronization with agencies and agreements with some of the agencies giving them the right to make reservations after the stop sales has been communicated.

When the revenue manager takes a decision to stop sales or to keep sales open he has to take into consideration that the information available to him is not fully reliable. With certainty closing sales with 100% occupation for a period of high demand such as the summer month will result in overbookings.

Strategic reasons include delaying sales with the expectation of selling at a higher price or to a different market or to come back with a better offer. For example, you might expect sales to go up for Christmas but only open the sales once an offer including dinner and gala has been put together and the price of this offer has been negotiated with agencies. To avoid selling all the rooms before the offer could be organized the revenue manager can close the sales.

Other than closing the sales, the RM can also alter the price or create restrictions on the reservation such as a minimum number of nights.

(3)How do we do it?

We now look at how the inventory management is done in practice.

There is a process in place to collect the necessary information to take the decision. Although the forecast occupancy of the hotels is visible in ORS and PMS, we do not visualize it there for the purpose of managing inventory. We think it is done in Excel and not in Opera because we need to keep track of the actions taken.

As you can see on Figure 4, the total occupancy appears first then the detail per room type (PD: Pousada or Standard, SP: Superior, JS: Junior Suite and LFML: Large Family Room), then below the column EMPTY gives the number of room style available, TOT the number of rooms occupied and % OCC the occupancy in percentage for the specific day. The date in the fourth column is the date when the stop sales was sent out. A date in the All type part means a stop

sales for all type of rooms was sent. There are rules in place so the cells turn gray when the sales are closed and other colored indicators when occupancy is high to facilitate reading.

Month	EMT	% O	TOT C	Stop S	EMT	% O	TOT C	Stop S	EMT	% O	TOT C	Stop S	EMT	% OCC	TOT OCC	Stop Sales	EMT	% OCC	TOT OCC	Stop Sales
01 Oct 15 - Thu	15	24%	5		5	38%	3		8	20%	2		2	0%	0		1	0%	0	
02 Oct 15 - Fri	4	76%	16	18-set	6	175%	14		8	20%	2		2	0%	0		1	0%	0	
03 Oct 15 - Sat	9	52%	11		1	88%	7	18-set	6	40%	4		2	0%	0		1	0%	0	
04 Oct 15 - Sun	14	29%	6		5	38%	3		7	30%	3		2	0%	0		1	0%	0	
05 Oct 15 - Mon	10	48%	10		1	88%	7	25-ago	7	30%	3		2	0%	0		1	0%	0	

Figure 4 Inventory management

Every time we want to check the forecast level of occupancy we download a report. The report is then copied in this file which compares the occupancy with the inventory. From there we look at each room type for day for the 27 properties and take decisions to close or open sales. The decisions are based on general information, experience, directives from management, common sense and sometimes discussion among team member.

As mentioned earlier, sales can be close for all room types or for one at a time. We give two examples of how this can be used strategically. Strategies are decided by higher management and apply by revenue managers with some degree of freedom.

Situation 1: If the hotel has three Suites available for sale and they are all reserved for a specific day, it is not possible to accommodate more clients who desire a suite. The RM will in this case order to stop selling Suites. The other room types can still be sold.

Situation 2: A “lower” room type such as the Standard room can be sold over its physical capacity. There is generally more demand for cheaper room types than for the more expensive ones, and it is easier to convince a client to be upgraded, without charge, than downgraded. However, the Revenue Manager will be careful not to sell at a lower price a room which could be sold later on at its full price.

Before and during a high occupancy period like the summer months the process of communicating an order of Stop Sale can be repeated up to three times a day. Figure 5 below is an example of the emails of stop sales sent to agencies. This information is also input by the reservation department in our business intelligence system and by the sales department in Omnibees.

	A	B	C	D	E	F	G	H	I	J	M	S
3												
5												
6												
17	201H061A	1299906	1137559	POUSADA MOSTEIRO DE GUIMARÃES - MONUMENT HOTEL	Room Type	Date	.Y					
34	202H071A	1299896	1137576	POUSADA VIANA DO CASTELO - HISTORIC HOTEL	ALL KIND OF ROOMS	28-05-2015	1 NIGHT ONLY					
119	202H291A	1297713	2425392	POUSADA DE VISEU - HISTORIC HOTEL	Standard	08-10-2015	1 NIGHT ONLY					
121					Standard	24-10-2015	1 NIGHT ONLY					
128	202H321A	1297714	1135593	POUSADA CASTELO DE PALMELA - HISTORIC HOTEL	ALL KIND OF ROOMS	01-10-2015	1 NIGHT ONLY					
139	202H331A	1297717	1227677	POUSADA PALACIO DE QUELUZ - HISTORIC HOTEL	Standard	01-11-2015	UNTIL 02-11-2015	INCLUSIVE				
147		1297724	1137566	POUSADA CONVENTO DE EVORA - HISTORIC HOTEL	Superior	20-10-2015	UNTIL 22-10-2015	INCLUSIVE				
151	202H441A		1137571	POUSADA DO MARVÃO - CHARMING HOTEL	Standard	25-10-2015	1 NIGHT ONLY					
176	202H471A	1314587	1139248	POUSADA DO MARVÃO - CHARMING HOTEL	Suite	09-10-2015	1 NIGHT ONLY					
216	202H551A	1299878	1139248	POUSADA CONVENTO VILA VIÇOSA - HISTORIC HOTEL	Standard	04-10-2015	1 NIGHT ONLY					
237	202H621A	1035195	1137573	POUSADA DE SÁGRES - CHARMING HOTEL	Standard	16-10-2015	1 NIGHT ONLY					
247					Suite	19-10-2015	UNTIL 20-10-2015	INCLUSIVE				
249		1297731	1501824	POUSADA CONVENTO DE TAVIRA - HISTORIC HOTEL	ALL KIND OF ROOMS	27-10-2015	1 NIGHT ONLY					
257	202H631A				Standard	30-10-2015	UNTIL 31-10-2015	INCLUSIVE				
279												
280												
281												
282												
283												
284												
285												

Figure 5 Summary to send to agencies

Mainly due to the difference in volume of sales, inventory management as realized by Pousadas tends to be on a day to day basis and more on the edge of full capacity. Hotels take more margins and will often “Stop Sales” earlier on and for a week at a time. For all, the consequence of failing to “Stop Sales” on time will be overbookings in the units. Overbookings create numerous complications which down the road results in unsatisfied customers and have bad consequences for the business.

Because it is impossible to predict demand accurately managing inventory is a difficult strategic activity. Weather the hotel ends up overbooked or under-booked as a consequence of the revenue manager’s decisions the company will be losing. Relocating clients which have been overbooked will cost the company money and degrade its image, while under optimal occupation bears opportunity costs.

There are many variables and circumstances to consider when managing inventory. Through management of inventory we learned a lot about the hotel sector and the market conditions.

3.4.2. Verification of Commissions

Commissions are paid on indirect sales. The resellers are referred to as Travel Agencies. Reservations made through travel agencies represent a large part of the sales. Travel agencies include not only the old fashion travel agency where you would go to a store and buy a holiday package with hotel, flight and car rental but also what we call the Online Travel Agencies (OTA) like Booking.com.

Regarding reservation made through travel agencies, customer payments need to be checked, to verify that the amount agreed upon was indeed the amount billed to the customer. This is

only when the payment is made at the hotel. Different travel agencies have different terms of payment, for example:

- Booking.com will confirm the reservation at a certain price and collect the bank information of the client for security reason but the client will only be charged at the hotel,
- Expedia will charge the client at the time of the reservation and then pay Pestana Group the corresponding amount after deduction of its commission.

The reservations to be check are of the former type: when Pestana is collecting the payment and paying the commission to the travel agent. A reseller like Booking.com receives a 25% commission. This is a high percentage and you do not want to pay it if the client was a No-show and therefor did not pay for his reserved stay. In business language, a No-show is a client who did not come to claim its reservation. Depending on the terms of the reservation the client will be charged either the full stay (in the case of a non-refundable reservation), the price of the first night or will not be charged anything.

We checked the commissions by downloading the summary of the last week for each unit and compare it to the information provided by the agency. When we found a difference we could make a claim on the extranet of the agency. There is a delay of a few days after the client has checked out of the hotel to make the claim. After the delay has passed the transaction is considered to be confirmed.

3.4.3. Price optimizations and promotional offers

As we saw in the review of the literature, pricing is an important part of RM. From our observations, prices are managed in four ways: the prices for the year decided in September, the use of dynamic prices, manual modifications for prices and the promotional offers.

(1) A yearly price chart

Every year between August and September is communicated the yearly price chart. It contains the dates chosen for the high and low season, several levels of public prices, two levels of agency prices. The evolution of prices during the year will be mostly automatic once this information has been input in our business intelligence system and negotiated with agencies. The prices are input in Opera by the reservation department and the negotiation with agencies is the responsibility of the commercial department.

(2)Dynamic price

After prices for the year have been established, they still vary under certain conditions, for example: a discounted price can be set for reservation made in advance (30 days, 60 days, 90 days), a discount can be set according to the characteristics of the client (golden age discount for people over 55 years old) or according to the characteristics of the reservation (non-refundable reservation). The revenue manager can open and close those discount option in the same way inventory is managed and manually in Omnibees or it can be decided that some promotions will not be available in a hotel for a period of time, such as for example no Golden Age discount during the pick period.

(3)Manual price optimizations

Finally, the prices can be adjusted manually. It is done only on occasion because many rates already exist for the same room on the same date depending on when the reservation is made, the length of stay, the characteristics of the customer and available promotional offers; and because it is rather time consuming to update prices for every channels. Nonetheless it remains possible and it is done on specific occasions such as a high demand on a few days which was not forecasted. When availability is already close to none and the date is still far in the future, the last rooms could be sold at a higher price.

(4)Promotional offers

Upon request of the high management RM teams can prepare a draft of the conditions for a new promotional offer like the example of Figure 6. This draft contains information on which units will be concerned, which channels, what will be the discount and the duration of the offer, whether the offer will be cumulative with other offers and a description of the theme of the offer (romantic week-end, vintage, diving). Putting in place a promotional offer involves the RM department but not only, as it also involves the departments of Marketing, Sales, Web design and the Central of Reservation in a conjoint effort. It is always a small project.

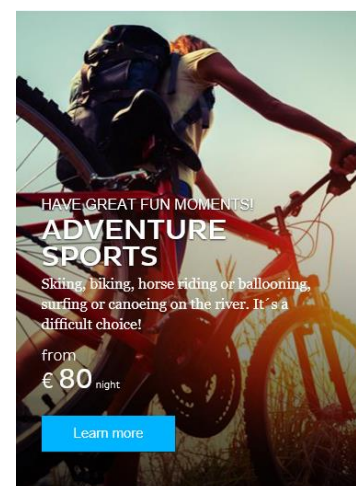


Figure 6 Promotion

3.4.4. Reporting and weekly forecast meeting

(1) Day by day support files

The first activity to be performed and the base of most of the reporting is the daily actualization of the support files. When it is not possible to do so, like during the week-end, then the information available on the next day is saved as many times as days have passed. It is important because this information will not be available after the next update, and because this information is the base used for all the reporting.

(2) Reporting

To our knowledge the reporting consists of the Sales Forecast including pick-up, the Sales Analysis of Promotional Offers and the Sales Analysis of auxiliary products.

The reporting is partly automated and adjustments need to be made manually. As you can see on Figure 7 the forecast results are expressed in Room Night (RN), Room Revenue (RREV) and Average Room Revenue (ARR) and declined in many indicators: the reservations made to this date (Actual), last year situation at the same date (LY – Day), forecast calculated by the revenue manager (Forecast), budget established on a yearly basis (Budget), last year's result (Last Year).

abril 2015		Growth Last Week										1.860 €		0,7%		
TOTAL																
04 mai 15 - seg		Actual	LY - Day	Forecast	Budget	Last Year	ACT vs LY-D	ACT vs BGT	FOR vs BGT	FOR vs LY	% ACT vs LY-D	% ACT vs BGT	% FOR vs BGT	% FOR vs LY	YTD FOR vs BGT	YTD FOR vs LY
Zona - TOTAL	RN	2.946	3.104	2.946	3.117	3.106	-138	-171	-171	-160	-5,09%	-5,49%	-5,49%	-5,15%	-171	-160
	RREV	273.750	270.878	273.750	280.747	270.878	2.872	-6.997	-6.997	2.872	1,06%	-2,49%	-2,49%	1,06%	-6.997	2.872
	ARR	92,92	87,27	92,92	90,07	87,21	5,66	2,85	2,85	5,71	6,48%	3,17%	3,17%	6,55%	0,00	0,00

Figure 7 Extract of the Forecast Report

(3) Weekly forecast meeting

The week is rhythmized by the weekly forecast meeting, during which the current situation is evaluated and the decisions are taken. During the meetings we took notes. The meetings were held in Portuguese. We could understand more of the discussions each week.

Prior to the meeting much information had to be collected, analyzed and made available to higher management: the forecast for the next three months including pick-up, an overview on the sales of promotional offers, an overview on group reservations, and an overview on ancillary sales.

During the meeting, the RM director goes through the situation of the properties one by one and by regions. The meeting is a conference call including collaborators in Lisbon and in Madeira.

For me the meetings were an opportunity to get to know who does what in the company and gather general information about the business.

3.5. Developments

In this part we go in further details about the opportunities for learning during the internship. We present two projects we completed and difficult situations we faced. We explain how we confronted each situation and what we have learned from the experience.

3.5.1. Two projects

When working daily with the RM for Pousadas, we seized the opportunity to turn difficulties we encountered as a team into projects. The first project was to create a feedback on our strategical decisions.

(1) Project I: improve feedback

Our tutor and we were continually asking ourselves how to improve RM's performance and processes. One of our conclusions was that a better feedback loop could lead to better decisions in the future. There was already a report in place to analyze the success of promotional offers on a weekly basis. Every week we were evaluating the success of each promotional offers on several criteria: number of room night, room revenue, average room rate and the total room revenue⁷; measuring the growth compare to the previous week; presenting the split per Pousada, per selling channel and per market; comparing the month total to the budget and to last year's actual results. We needed more general information, not only about the promotional offers.

The first difficulty of the project was that it was not clearly defined. It was rather a general will, which had been encouraged by our readings of the scientific literature and by management, to have more visibility on the consequences of RM. The second difficulty was that the amount of data was not manageable in Excel. Data about the 27 Pousadas over the last three years cannot be contained in one Excel file. Actually the first extraction file had over 12 000 lines.

⁷ Total room revenue includes the price of the room night and the ancillary revenues.

In the business intelligence software (Opera) the prices are organized by rates. One rate is associated to a rate code which is its denomination under 12 characters. Rates are defined by: the market they concern, the offers that apply (Early Booking, Golden Age), the unit concerned. To make it manageable, we classified and grouped the rate codes. Also, the codes of similar rates can vary year to year. We solved this problem by splitting the data in different file for each year keeping a common list to allow comparison between years.

In conclusion our project contributed to make the information more manageable. The final result was still unstable and improvements remained to be made. Excel might not be the most indicated tool to make feedback at this scale. Nether the less the process we designed is able to retrieve selected information. The classification of the rates and the experimental queries we designed can be the base for more.

(2)Project price finder

The second project was born in September when the standard prices for the year were released. The standard prices come in one base price table crossing room type, number of occupant and time period, more five table of standard options, more two tables for group prices, times 27 Pousadas. The way we use it is we print in a catalogue form and then go through the page to find a price. In short it is time consuming and repetitive. In September when the new prices were first communicated, they were still updated every other day, which implied reprinting, and made it more difficult to manage.

The project was to reduce search time and facilitate access to the right information. We designed a home page to the Excel file to retrieve prices by selecting criteria from dropdown lists. The difficulty came from the format of the standard prices, with criteria crossing over each other. We learned new Excel tricks and improved our attention to detail. It had to be well standardized because the prices kept evolving.

The two projects were opportunities to improve our technical skills but not only. At every step we learned more about the organization, about pricing and got a deeper understanding of our day to day activities.

3.5.2. Personal Growth

As a student, doing an internship is the opportunity to get some insight into the professional world. It is an opportunity to grow and further develop one's skills. In this part we share about

some of the situations we encountered during the internship, how we overcame them and what we learned from this experience.

The first difficulty was due to the time period we started the internship. Indeed, the month of August is the busiest time of the year for the RM team as well as for most people in the office. As a consequence, the environment was rather hectic and our colleagues had little time to help me get started. Nonetheless, the team was very welcoming and always available to answer our questions. We spent the first week shadowing our first tutor Johann Pita, making every question imaginable and learning by observation. This difficulty turned into an opportunity to get a global vision of the business and get to know our colleagues.

The second difficulty for me was the language. Living in Portugal for about a year, we had already experienced the inconvenience of not speaking Portuguese. Of course, it was not unique to this experience and though it is worth pointing it out as a potential difficulty, at Pestana it was never a real obstacle. We were not the first person going through the process of learning Portuguese while part of this team. Our first supervisor Johan Pita is a native French speaker like me. As for the rest of the team they were very comfortable speaking English with us. Although they encouraged us to improve our language skills and communicate more in Portuguese they never complained or made us feel a language barrier.

The third difficulty was to balance the detail oriented and the global vision in our work. On one hand, the revenue manager need to be very meticulous as to optimize sales but on the other hand RM requires a sense of trends. During the internship, we learned the importance of keeping track of action taken: change of prices, close of sales, re-open of sales, or group reservations. The revenue manager is accountable for situations of overbooking, or for missed opportunities of sales. As for getting the feeling of the global situation, we learned the importance of communication between departments. We experienced that in order to improve as a revenue manager we needed to be knowledgeable about every aspect of the company.

The fourth difficulty was our lack of previous knowledge and experience about RM or the hospitality industry. RM for the hospitality business is more complex and regulated than we ever expected. We learned about the market conditions of the hospitality sector. As we saw in the literature review hospitality needs to cooperate with travel agencies to reach their potential customers while agencies can always find alternative options to accommodate their clients. The

result of this unbalance is terms and agreements advantageous to the agencies. During the internship we learned new things everyday which kept our motivation high.

CHAPTER 4: CONCLUSION

The review of the literature showed that although RM was originally designed for airlines, hospitality has all the characteristics to take advantage of RM practices and that RM already has a proven track record of improving hotel's revenue. Our experience confirmed that RM practices have been implemented and are well accepted at Pestana.

Most of our observations during the internship reflect the description made by the scientific literature. For example, we saw more importance given to forecast and planning head rather than punctual alterations. It is in accordance with Arate, *et al.* (2012) observation that most hotels have set a dynamic pricing strategy. RM at Pestana relies on forecast by channel and rate category, that is, on forecast by segment, a requirement to the application of RM principals according to (Koupriouchina, *et al.*, 2014). Enz & Withiam (2001) declared the first rule of applying RM is to be have a logical set of prices that make sense to the potential customers. It matches what we have observed: price discriminations based on age, date of reservation, length of stay and seasonal offers.

According to the literature there are two aspects that limit the use of RM practices: it is difficult to measure their impact (Cross, *et al.*, 2009) and most hotels do not have “sufficient marketing power to change room rates at will.” (Enz & Withiam, 2001) We could observe the consequences of both during the internship. The former was the source of inspiration for our first project. As for the latter, we have observed that terms and conditions contracted with the travel agencies are a major obstacle to the application of RM strategies. OTAs are the strongest actors in the market. This situation of imbalance is progressively evolving as Booking.com and Expedia have recently agreed to the demands of trade regulators in France, Italy and Sweden on rate parity and allotment of rooms. (Challenges.fr, 2015)

The perspectives for RM, as per the literature, lie in implementing new technologies and taking advantage of the growth of the internet as a channel of distribution to “discriminate clients, apply(ing) different prices on the online market over time.” (Arate, *et al.*, 2012). The expectation is for RM to understand the elasticity of demand for the different customer groups, be able to determinate the appropriate channel mix and execute the resulting strategy in a timely manner. In doing so, the expectation is for RM to not only manage demand but to create demand. (Cross, *et al.*, 2009) The perspective for the RM teams at Pestana is also to rely more

on technology as they are considering the implementation of new software which gathers real time information about the competitors' price offer.

As for me, what we have learned during the internship made us want to know more. At the end of the three month we could still consider the concept of RM "selling the right room, to the right client, at the right price, on the right moment, and on the right channel" a challenge.

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